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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/246,612	02/08/1999	JAMES MCCORMICK	1400.9801020	6382

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EXAMINER

TANG, KENNETH

ART UNIT

PAPER NUMBER

2156

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.	09/246,612	
Examiner	MCCORMICK ET AL.	
Kenneth Tang	Art Unit 2156	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on \_\_\_\_.  
2a) This action is FINAL.      2b) This action is non-final.  
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-39 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
5) Claim(s) \_\_\_\_ is/are allowed.  
6) Claim(s) 1-39 is/are rejected.  
7) Claim(s) \_\_\_\_ is/are objected to.  
8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
    If approved, corrected drawings are required in reply to this Office action.  
12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
    a) All    b) Some \*    c) None of:  
        1. Certified copies of the priority documents have been received.  
        2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
        3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
    \* See the attached detailed Office action for a list of the certified copies not received.  
14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
    a) The translation of the foreign language provisional application has been received.  
15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)      4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_.  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)      5) Notice of Informal Patent Application (PTO-152)  
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_      6) Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

- “Essential messages” have been referred to without being formally defined in the specification. The definition of this term was not understood.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

- “indispensable messages” is indefinite;
- “essential messages” is indefinite.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are:

- The relationship between “dequeuing” and “first dequeuing manner” is omitted.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 14, 22, 23, 25, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi (US 6,134,216) in view of IBM Technical Disclosure (Vol. 34, No. 9, February 1992).

While claims were rejected under 35 USC 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraph, in order to advance prosecution, claims will be treated on the merits in view of the examiner's best understanding of the disclosure and the prior art.

Referring to claims 1, 2, 14, 22, 23, 25, 32, and 33, Gehi discloses a method consisting of the following:

- receiving plurality of call signaling messages (call signaling messages, col 2, lines 47-51);
- Comparing queue occupancy level with first threshold ( $S(n)$  compared against threshold  $X[\max, I]$ , col 4, lines 24-49);
- When occupancy level compares unfavorably with threshold, **enqueue** call signaling messages into processing queue based on type of call signaling messages (**level is changed to be at level (i+1)** over the upcoming interval, col 4, lines 24-49);
- Call processing (Fig 1, 20, and processor, col 8, lines 28-57);
- Processing module (modules, processor, col 9, lines 20-30).

However, Gehi fails to explicitly teach enqueueing the messages based on its type. IBM teaches having messages enqueued based on their type (“enqueued message types” and “message of the corresponding type to be enqueued”, page 170, paragraph 2). It would have been obvious to one ordinary skill in the art at the time the invention was made to include the feature of enqueueing call signaling messages based on its type to the existing system of Gehi in order to increase selectivity of the contents in the processing queue.

Referring to claim 2, 15, 23, and 33, Gehi in view of IBM fails to explicitly teach using dispensable, indispensable and essential messages as type of call signaling messages. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a dispensable type of message to the existing system of Gehi and IBM for the reason of maximizing the communication efficiency by minimizing wasteful communication resources.

The Office interprets “essential messages” to mean those that have any sort of relevance. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include relevant types of messages to the existing system of Gehi and IBM because they are considered important. In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include indispensable messages for the reason of having more message types for selectivity.

Referring to claims 3, 7, 16, and 24, 34, and 36, Gehi in view of IBM fails to explicitly teach the following:

- a) when message is dispensable, delete the previous dispensable message;
- b) enqueueing new message when previous one is deleted;
- c) enqueueing message into queue when message is indispensable or essential.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a) and b) to the existing system of Gehi and IBM for the reason of deleting the old values and adding the new values to the queue for updating reasons. In addition it would have been obvious to one of ordinary skill in the art at the time the invention was made to include c) to the existing system of Gehi and IBM for the reason of replacing the dispensable messages with both indispensable or essential ones.

Referring to claim 4, 6, 8, and 27, Gehi in view of IBM fails to explicitly teach dropping the call signaling message if the previous dispensable one does not exist. However, it would

have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of increasing efficiency by removing wasteful resource material.

Referring to claims 5, 17, and 25, and 35, Gehi in view of IBM discloses a method consisting of the following:

- Comparing queue occupancy level with second threshold (compared against threshold  $X[min,I]$ , col 4, lines 24-49)
- When occupancy level compares unfavorably with threshold, dequeue call signaling messages into processing queue based on type of call signaling messages (level is changed to be at level  $(I-1)$  over the upcoming interval, col 4, lines 24-49).

Gehi in view of IBM fails to explicitly teach the following:

- a) when message is dispensable, delete the previous dispensable message;
- b) enqueueing new message when previous one is deleted;
- c) enqueueing message into queue when message is essential.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a) and b) to the existing system of Gehi and IBM for the reason of deleting the old values and adding the new essential values to the queue for updating the queue with relevant messages.

Referring to claim 10, Gehi in view of IBM fails to explicitly teach using at least one of FIFO and LIFO. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM because it is well-known that a queue can either operate as FIFO or LIFO.

Referring to claims 12, 20, 30, and 38, Gehi in view of IBM fails to explicitly teach updating the plurality of dequeuing lists when the enqueueing changes occur. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this updating feature to the existing system of Gehi and IBM for the reason of improving accuracy and organization.

Referring to claim 18 and 26, Gehi in view of IBM fails to explicitly teach dropping the call signaling message if the previous dispensable one does not exist. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of increasing efficiency by removing wasteful resource material. In addition, Gehi in view of IBM fails to explicitly teach enqueueing the message when the previously indispensable one is deleted. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of enqueueing the new message for the reason of adding the new values to the queue for updating reasons.

4. Claims 9, 21, 28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi (US 6,134,216) in view of IBM in further view of Holmes (US 5,999,969).

Referring to claims 9, 13, 21, 28, 31, and 39, Gehi in view of IBM fails to explicitly teach the use of dequeuing messages from the call processing queue when in sustained overloading condition. Holmes teaches using a message dequeue operation (col 25, lines 21-25) with a message queue as a call processing queue (message queues, col 7, lines 35-37). However, Holmes fails to explicitly teach doing this in a sustained overloading condition. Moreover, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of preventing a burst of overhead data and to stay under the switch's capacity.

Claims 11, 19, 29, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi in view of IBM in further view of Baldwin (US 6,310,952).

Referring to claims 11, 19, 29, and 37, Gehi and IBM fail to explicitly teach maintaining a plurality of dequeuing lists that track the following:

- locations in the call processing queue;

Baldwin teaches keeping track of that caller's location in a call queue (col 4, lines 62-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature of tracking the location to the existing system of Gehi and IBM

for the reasons of having a “pointer” in the queue so comparisons can be made towards the threshold to determine when there is sustained overloading.

The system of Gehi, IBM and Baldwin fail to teach tracking the following:

- an ordered list of types of calling signaling messages;
- an ordered list of dispensable messages;
- an ordered list of indispensable messages;
- an ordered list of essential messages.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include having types of calling signaling messages to the system of Gehi, IBM, and Baldwin for the reason of increasing selectivity of the contents in the processing queue.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a dispensable type of message to the existing system of Gehi and IBM for the reason of maximizing the communication efficiency by minimizing wasteful communication resources. The Office interprets “essential messages” to mean those that have any sort of relevance. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include relevant types of messages to the existing system of Gehi and IBM because they are considered important. In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include indispensable messages for the reason of having more message types for selectivity.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (703) 305-5334. The examiner can normally be reached on 8:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alvin Oberley can be reached on (703)305-9716. The fax phone numbers for the organization where this application or proceeding is assigned are none for regular communications and none for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is none.

*Kenneth Tang*  
kt

July 22, 2002

*Ma Ban*

MAJID A. BANANKHAAH  
PRIMARY EXAMINER